

IN THE DRAWINGS

The attached sheets of drawings include changes to Figs. 1A and 1B. These sheets, which include Figs. 1A and 1B, replace the original sheets including Figs. 1A and 1B.

Attachment: Replacement Sheets

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-8, 10-13, 16, and 18-21 are pending in the present application with Claims 3, 4, 6, and 7 withdrawn from consideration. Claims 1 and 2 are amended by the present amendment. The changes and additions to the claims do not add new matter and are supported, for example, in the originally filed specification at page 2, lines 24-28.

In the outstanding Office Action, the drawings were objected to; Claims 1, 2, and 5 were rejected under 35 U.S.C. §102(b) as anticipated by Yamada et al. (JP 63-037621, hereafter “Yamada”); Claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Yamada in view of Armistead (U.S. Patent No. 5,838,759); Claims 10, 12-13, 16, 18, 20, and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Yamada in view of Armistead and Cluzeau (French Patent Application FR 2 738 669); Claims 11 and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Yamada in view of Armistead, Cluzeau, and Kassing (German Patent Application DE 3049153 A1).

As an initial matter, it is noted that MPEP §706.02 II is relevant to rejections based on English Abstracts and/or the underlying foreign language document. This MPEP section makes it clear that if the Examiner is relying on both the English Abstract and the underlying Japanese document (Yamada), a translation of this document is to be obtained and supplied prior to implementing a final Action. As the present Action includes no translation of the underlying document, the outstanding Office Action must be relying on the English Abstract alone. However, MPEP §707.02 II makes it clear that such reliance is “inappropriate where both the abstract and the underlying document are prior art.”

Accordingly, it is respectfully submitted that the present Action that must be relying only on the Yamada English Abstract is inappropriate.

Furthermore, to the extent that any subsequent Action relies on Yamada, a copy of the full translation should be supplied as required under MPEP §706.02 II.

With respect to the objection to the drawings, Applicants respectfully submit that the amendment to include “prior art” labels on Figures 1A and 1B, as suggested by the Office Action, overcomes these objections.

With respect to the rejection of Claim 1 under 35 U.S.C. §102(b), Applicants respectfully submit that the amendment to Claim 1 overcomes this ground of rejection.

Amended Claim 1 recites, *inter alia*,

neutron emissive parts and neutron non-emissive parts which are juxtaposed, only the neutron emissive parts containing tritium and deuterium emitting neutrons during the bombardment with particles, said emissive and non-emissive parts being arranged so as to form a non-uniform pattern as a coded mask such that said target emits a neutron flow including plural neutron beams coded by the pattern of the mask.

Figures 2 and 4A-4C show non-limiting examples of these features. Figure 2 shows a target 10 that has juxtaposed emissive parts 11 and non-emissive parts 12 forming a coded mask. In this example, the target 10 is bombarded with ions of tritium and deuterium and the emissive parts 11 emit neutrons as a result (see page 10, lines 12-24). Figure 3A shows the resulting flow of neutrons as beams coded by the pattern of the mask on target 10. The emissive parts 11 are made by depositing a hydrogen fixing material 15 through a stencil 16 and forming blocks 17 as shown in Figure 4A (See page 14, lines 5-22). The hydrogen fixing material used to form the emissive parts 11 is fixed with tritium and/or deuterium nuclei (see page 2, lines 24-28). Advantageously, target 10 formed in the manner described above, has a lifetime longer than the lifetime of a conventional point shaped target while also providing an image having a quality higher than the quality of a conventional large target (see page 13, lines 5-22).

Yamada is directed to an X-ray mask which does not emit neutrons when bombarded with particles. In other words, the X-ray mask of Yamada functions like a filter. In Yamada,

the parts (8) made of gold are used to stop or to absorb X-rays (see Figure 1d). The transmitting membrane 3 is composed of boron nitride carbide hydride and is used to transmit X-rays (see Abstract and Figure 1d). Yamada fails to disclose or suggest that the transmitting membrane 3 contains tritium and deuterium.

Therefore, Yamada fails to disclose or suggest *neutron emissive parts containing tritium and deuterium emitting neutrons during the bombardment with particles*, as defined by amended Claim 1.

Further, a person of ordinary skill in the art who wants to create the X-ray transmitting membrane of Yamada has no motivation to use emissive parts containing tritium and deuterium. An X-ray mask and a target intended to emit neutrons when bombarded with particles are not the same. The boron nitrate carbide hydride of Yamada's transmitting membrane, which does not contain tritium and deuterium, is sufficient for being transparent to X-rays. As the boron nitrate carbide hydride of Yamada already achieves the objective of being transparent to X-rays, there is no motivation to incorporate emissive parts having tritium and deuterium in the X-ray mask of Yamada.

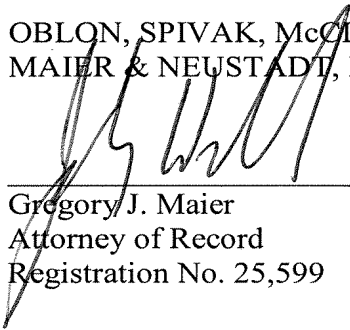
Armistead, Cluzeau, and Kassing have been considered but fail to remedy the deficiencies of Yamada with regards to amended Claim 1.

Thus, it is respectfully submitted that amended Claim 1 (and all associated dependent claims) patentably distinguish over Yamada, Armistead, Cluzeau, and Kassing, taken either alone or in proper combination.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Attorney of Record
Registration No. 25,599

Joseph Wrkich
Registration No. 53,796

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 03/06)

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